

October 31, 2013

Via PDF (Moody.jonathan@EPA.gov)
Confirmation First Class Mail

U.S. Environmental Protection Agency
Attention: Jonathan Moody
Water Enforcement & Compliance Assurance Branch
Water Division, WC-15J
77 West Jackson Blvd.
Chicago, IL 60604-3590

**RE: September 2013 Monthly Discharge Report Pursuant to Paragraph 10 of
July 2, 2013 Clean Water Act Section 308(a) Request for Information
Eagle Mine, LLC, Humboldt Mill Facility
Docket No. V-W-13-308-17**

Dear Mr. Moody:

In accordance with Region 5 U.S. EPA's Clean Water Act Section 308(a) Information Request dated July 2, 2013 ("**Request**") and subsequent correspondence between Regional Counsel Nicole Cantello and Dennis J. Donohue, Eagle Mine LLC ("**Eagle**") hereby submits this monthly report of discharge of water from the Humboldt Tailings Disposal Facility ("**HTDF**") in partial response to paragraph No. 10 of the Request, for the period from September 1 to September 30, 2013.

The enclosed tabular summary (Table 1) contains dates of water discharge from the HTDF, the total estimated volume of discharge and the peak rate of discharge. Because flow rates are measured or estimated on a daily basis, the peak rate of discharge is presented as a daily maximum flow. September 2013 HTDF discharge flow rates are less than the discharge rates measured earlier in the year and decreased substantially during the month because of a lesser frequency and duration of pumping from the HTDF, as a result of effective removal of storm water from the HTDF and relatively low rates of precipitation/recharge in the month.

Analytical results from September 10, 2013 sampling of the HTDF discharge are also summarized in Table 1. September 10, 2013 sampling was a dry weather sampling event. The laboratory analytical report for the HTDF discharge sample, including relevant chain of custody documentation, is presented as Attachment I to this letter.

Storm water was not being discharged from the HTDF during a qualifying rainfall event in September of 2013 subsequent to Eagle's receipt of Nicole Cantello's September 3, 2013 electronic correspondence to Dennis Donohue clarifying EPA's sampling request. As a result, a wet weather sample of the HTDF discharge was not collected in September of 2013.

The HTDF discharge analytical results were compared to Michigan Rule 57 water quality standards and no exceedances of Rule 57 water quality standards were observed in this surface water discharge sample. Hardness dependent Rule 57 standards were updated based on a hardness value for the receiving waters (i.e., Wetland EE) of 240 mg/L, based on a sample of surface water from Wetland EE which was collected on September 27, 2013. The analytical report for this sample is also included in Attachment I.

Finally, we are also submitting surface water elevation data for the HTDF collected in September of 2013, as requested by Nicole Cantello in her September 3, 2013 electronic correspondence to Dennis Donohue. HTDF surface water elevation measurements were not made between September 3 and September 9, 2013 because the water elevation in the HTDF had decreased sufficiently that replacement of the HTDF staff gauge was necessary. The replacement staff gauge was installed on September 10, 2013.

Please do not hesitate to contact me with any questions regarding these documents or if you are in need of additional information.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person(s) who manage the system, or those person(s) directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



Kristen Mariuzza, P.E.
Environmental and Permitting Manager

EPA Section 308(a) Information Request**Docket No. V-W-13-308-17****Eagle Mine, LLC, Humboldt Mill Facility, Champion, MI****Request No. 10****September 2013 Monthly Report**

**HUMBOLDT TAILINGS DISPOSAL FACILITY
STORM WATER DISCHARGE
FLOW DATA**

Discharge Date	Estimated Daily Discharge (gal) ¹	Notes
9/1/2013	0	
9/2/2013	0	
9/3/2013	337,500	
9/4/2013	714,500	
9/5/2013	684,100	
9/6/2013	737,600	
9/7/2013	724,400	
9/8/2013	755,700	
9/9/2013	642,900	
9/10/2013	744,000	
9/11/2013	720,900	
9/12/2013	713,600	
9/13/2013	688,900	
9/14/2013	0	
9/15/2013	0	
9/16/2013	349,500	
9/17/2013	353,700	
9/18/2013	348,100	
9/19/2013	360,700	
9/20/2013	364,000	
9/21/2013	0	
9/22/2013	0	
9/23/2013	350,900	
9/24/2013	346,200	
9/25/2013	350,600	
9/26/2013	341,300	
9/27/2013	306,800	
9/28/2013	0	
9/29/2013	0	
9/30/2013	354,800	
Total Estimated Monthly Discharge (gal):	11,290,700	
Maximum Estimated Daily Discharge Rate (gal):	755,700	

¹ Discharge rates are estimated based, in part, on pump capacity and pump operating time.

EPA Section 308(a) Information Request

Docket No. V-W-13-308-17

Eagle Mine, LLC, Humboldt Mill Facility, Champion, MI

Request No. 10

September 2013 Monthly Report

**HUMBOLDT TAILINGS DISPOSAL FACILITY
STORM WATER DISCHARGE
DISCHARGE CHARACTERIZATION DATA**

Sample Location		EM-HMP-009
Lab Sample ID		T13161-01
Sampled By		AECOM
Analyzed By		Trace
Sample Date		9/10/2013
<i>Inorganics</i>	<i>Units</i>	
Antimony	ug/L	<1.0
Arsenic	ug/L	<1.0
Barium	ug/L	9.0
Beryllium	ug/L	<1.0
Boron	ug/L	71
Cadmium	ug/L	<0.20
Chromium, Total	ug/L	<10
Cobalt	ug/L	<2.0
Copper	ug/L	4.6
Lead	ug/L	<1.0
Lithium	ug/L	<25
Manganese	ug/L	70
Mercury (Inorganic)	ng/L	0.55
Molybdenum	ug/L	9.0
Nickel	ug/L	8.5
Selenium	ug/L	<1.0
Silver	ug/L	<0.50
Strontium	ug/L	240
Thallium	ug/L	<1.0
Zinc	ug/L	<10
<i>Miscellaneous</i>	<i>Units</i>	
Cyanide, total	mg/L	0.012
Fluoride	mg/L	<0.10
Nitrogen, Ammonia	mg/L	<0.010
Phosphorus, Total	mg/L	<0.010
Sulfate	mg/L	120
Total Dissolved Solids	mg/L	410
Total Suspended Solids	mg/L	<10

Bolded value denotes parameter detected above detection limit

HUMBOLDT TAILINGS DISPOSAL FACILITY ("HTDF")
SURFACE WATER ELEVATION DATA

Measurement Date	HTDF Water Elevation (ft AMSL)
9/3/2013	1538.30
9/10/2013	1537.83
9/13/2013	1537.67
9/16/2013	1537.65
9/17/2013	1537.63
9/18/2013	1537.62
9/19/2013	1537.61
9/20/2013	1537.63
9/23/2013	1537.65
9/24/2013	1537.62
9/25/2013	1537.61
9/26/2013	1537.58
9/27/2013	1537.55
9/30/2013	1537.53

ATTACHMENT I

***LABORATORY ANALYTICAL REPORTS AND
CHAIN OF CUSTODY DOCUMENTATION***



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September 23, 2013

Mr. Lance Lindberg
AECOM
1050 Wilson
Marquette, MI 49855

Phone: (906) 228-2333
Fax: (906) 226-8371

RE: Trace Project T131161
Client Project Humbolt Mill 60305471

Dear Mr. Lindberg:

Enclosed are your analytical results. The results of this report relate only to the samples listed in the body of this report.

All reports were examined through Trace's validation process to ensure that requirements for quality and completeness were satisfied. All reported analytical results were obtained in accordance with the methods referenced on the reports. Every practical effort was made to meet the reporting limit specifications for this work, however, some results may have raised reporting limits to correct for percent solids.

For clients that require NELAC Accreditation, Trace certifies that these test results meet all requirements of the NELAC Standard, except for those analytes with a "N" notation. These analytes have not been evaluated by NELAC at Trace's discretion and will not be reported unless requested by client.

If you have questions concerning this report, please contact me at 231.773.5998 or by email at jmink@trace-labs.com.

Sincerely,

Jon Mink
Senior Project Manager
Enclosures



NJDEP Accreditation No. MI008 PADEP Accreditation No. 68-04471

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SAMPLE SUMMARY

Trace Project ID: T13I161
Client Project ID: Humbolt Mill 60305471

Trace ID	Sample ID	Matrix	Collected By	Date Collected	Date Received
T13I161-01	EM-HMP-009	Water	ajp	09/10/13 14:10	09/11/13 09:34

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AN EXPLANATION OF TERMS AND SYMBOLS WHICH MAY OCCUR IN THIS REPORT

DEFINITIONS

LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MS	Matrix Spike
MSD	Matrix Spike Duplicate
RPD	Relative Percent Difference
DUP	Matrix Duplicate
RDL	Reporting Detection Limit
MCL	Maximum Contamination Limit
TIC	Tentatively Identified Compound
<, ND or U	Indicates the compound was analyzed for but not detected
*	Indicates a result that exceeds its associated MCL or Surrogate control limits
N	Indicates that the compound has not been evaluated by NELAC
NA	Indicates that the compound is not available.

DATA QUALIFIERS

Trace ID: T040019-MSD1

Analysis: EPA 335.4 Rev. 1.0

Cyanide (total)

Note 213 : The MS and MSD recoveries were out of control high. The RPD between the MS and MSD was also out of control. The result for this analyte, in non-spiked version of the sample, must be considered estimated.

Trace ID: T131161-01

Analysis: EPA 335.4 Rev. 1.0

Cyanide (total)

Note 213 : The MS and MSD recoveries were out of control high. The RPD between the MS and MSD was also out of control. The result for this analyte, in non-spiked version of the sample, must be considered estimated.

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ANALYTICAL RESULTS

Trace Project ID: T131161

Client Project ID: Humbolt Mill 60305471

Trace ID: T131161-01
Sample ID: EM-HMP-009

Date Collected: 09/10/13 14:10
Date Received: 09/11/13 09:34

Matrix: Water

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
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METALS, TOTAL

Analysis Method: EPA 1631E

Batch: T040001

Mercury	0.55 ng/L	0.60	1	09/12/13	klm	09/16/13	klm		
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Analysis Method: EPA 200.7 Rev. 4.4

Batch: T040023

Boron	71 ug/L	40	1	09/13/13	mes	09/17/13	mes		
Lithium	<0.025 mg/L	0.025	1	09/13/13	mes	09/18/13	mes	N	
Strontium	0.24 mg/L	0.050	1	09/13/13	mes	09/17/13	mes		

Analysis Method: EPA 200.8 Rev. 5.4

Batch: T040208

Antimony	<1.0 ug/L	1.0	1	09/19/13	gmr	09/20/13	gmr		
Arsenic	<1.0 ug/L	1.0	1	09/19/13	gmr	09/20/13	gmr		
Barium	9.0 ug/L	5.0	1	09/19/13	gmr	09/20/13	gmr		
Beryllium	<1.0 ug/L	1.0	1	09/19/13	gmr	09/20/13	gmr		
Cadmium	<0.20 ug/L	0.20	1	09/19/13	gmr	09/20/13	gmr		
Chromium	<10 ug/L	10	1	09/19/13	gmr	09/20/13	gmr		
Cobalt	<2.0 ug/L	2.0	1	09/19/13	gmr	09/20/13	gmr		
Copper	4.6 ug/L	1.0	1	09/19/13	gmr	09/20/13	gmr		
Lead	<1.0 ug/L	1.0	1	09/19/13	gmr	09/20/13	gmr		
Manganese	70 ug/L	1.0	1	09/19/13	gmr	09/20/13	gmr		
Molybdenum	9.0 ug/L	1.0	1	09/19/13	gmr	09/20/13	gmr	N	
Nickel	8.6 ug/L	5.0	1	09/19/13	gmr	09/20/13	gmr		
Selenium	<1.0 ug/L	1.0	1	09/19/13	gmr	09/20/13	gmr		
Silver	<0.50 ug/L	0.50	1	09/19/13	gmr	09/20/13	gmr		
Thallium	<1.0 ug/L	1.0	1	09/19/13	gmr	09/20/13	gmr		
Zinc	<10 ug/L	10	1	09/19/13	gmr	09/20/13	gmr		

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ANALYTICAL RESULTS

Trace Project ID: T131161
Client Project ID: Humbolt Mill 60305471

Trace ID: T131161-01	Date Collected: 09/10/13 14:10	Matrix: Water
Sample ID: EM-HMP-009	Date Received: 09/11/13 09:34	

PARAMETERS	RESULTS UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
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WET CHEMISTRY

Analysis Method: EPA 300.0 Rev. 2.1

Batch: T039954

Fluoride	<0.10 mg/L	0.10	5	09/11/13	jd	09/11/13	jd		
Sulfate as SO ₄	120 mg/L	2.5	5	09/11/13	jd	09/11/13	jd		

Analysis Method: EPA 335.4 Rev. 1.0

Batch: T040019

Cyanide (total)	0.012 mg/L	0.0050	1	09/13/13	as	09/13/13	as	213	
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Analysis Method: EPA 350.1 Rev. 2.0

Batch: T040059

Ammonia as N	<0.010 mg/L	0.010	1	09/16/13	as	09/16/13	as		
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Analysis Method: SM 2540 C-97

Batch: T040027

Total Dissolved Solids	410 mg/L	10	1	09/13/13	jd	09/13/13	jd		
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Analysis Method: SM 2540 D-97

Batch: T040216

Total Suspended Solids	<10 mg/L	10	1	09/17/13	gmr	09/17/13	gmr		
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Analysis Method: SM 4500-P E

Batch: T040077

Phosphorus-Total (as P)	<0.010 mg/L	0.010	1	09/17/13	jd	09/17/13	jd	N	
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QUALITY CONTROL RESULTS

Trace Project ID: T131161

Client Project ID: Humbolt Mill 60305471

QC Batch: T040001

QC Batch Method: EPA 1631E

Analysis Description: Mercury, Total, Low Level

Analysis Method: EPA 1631E

METHOD BLANK: T040001-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Mercury	ng/L	<0.50	0.50	

LABORATORY CONTROL SAMPLE: T040001-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Mercury	ng/L	25.0	25.2	101	77-123	

Trace Project ID: T131161

Client Project ID: Humbolt Mill 60305471

QC Batch: T040023

QC Batch Method: EPA 200.2

Analysis Description: Strontium, Total

Analysis Method: EPA 200.7 Rev. 4.4

METHOD BLANK: T040023-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Boron	ug/L	<40	40	
Lithium	mg/L	<0.025	0.025	
Strontium	mg/L	<0.050	0.050	

LABORATORY CONTROL SAMPLE: T040023-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Boron	ug/L	1600	1460	91	85-115	
Lithium	mg/L	1.60	1.53	96	85-115	
Strontium	mg/L	1.60	1.59	100	85-115	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T040023-MSD1

Original: T131161-01

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Boron	ug/L	70.9	1600	1450	1430	86	85	70-130	1	20	
Lithium	mg/L	0.00643	1.60	1.61	1.59	100	99	70-130	1	20	
Strontium	mg/L	0.239	1.60	1.79	1.87	97	102	70-130	5	20	

Trace Project ID: T131161

Client Project ID: Humbolt Mill 60305471

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QC Batch: T040208

QC Batch Method: EPA 200.2

Analysis Description: Manganese, Total

Analysis Method: EPA 200.8 Rev. 5.4

METHOD BLANK: T040208-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Silver	ug/L	<0.50	0.50	
Arsenic	ug/L	<1.0	1.0	
Barium	ug/L	<5.0	5.0	
Beryllium	ug/L	<1.0	1.0	
Cadmium	ug/L	<0.20	0.20	
Cobalt	ug/L	<2.0	2.0	
Chromium	ug/L	<10	10	
Copper	ug/L	<1.0	1.0	
Manganese	ug/L	<1.0	1.0	
Molybdenum	ug/L	<1.0	1.0	
Nickel	ug/L	<5.0	5.0	
Lead	ug/L	<1.0	1.0	
Antimony	ug/L	<1.0	1.0	
Selenium	ug/L	<1.0	1.0	
Thallium	ug/L	<1.0	1.0	
Zinc	ug/L	<10	10	

LABORATORY CONTROL SAMPLE: T040208-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Silver	ug/L	100	102	102	85-115	
Arsenic	ug/L	100	97.2	97	85-115	
Barium	ug/L	100	97.9	98	85-115	
Beryllium	ug/L	100	96.4	96	85-115	
Cadmium	ug/L	100	96.1	96	85-115	
Cobalt	ug/L	100	98.4	98	85-115	
Chromium	ug/L	100	93.7	94	85-115	
Copper	ug/L	100	96.8	97	85-115	
Manganese	ug/L	100	98.5	98	85-115	
Molybdenum	ug/L	100	97.4	97	85-115	
Nickel	ug/L	100	96.2	96	85-115	
Lead	ug/L	100	92.7	93	85-115	
Antimony	ug/L	100	100	100	85-115	
Selenium	ug/L	100	99.4	99	85-115	
Thallium	ug/L	100	92.8	93	85-115	
Zinc	ug/L	100	98.0	98	85-115	

Trace Project ID: T131161

Client Project ID: Humbolt Mill 60305471

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QC Batch: T039954

QC Batch Method: IC Prep W

Analysis Description: Sulfate

Analysis Method: EPA 300.0 Rev. 2.1

METHOD BLANK: T039954-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Fluoride	mg/L	<0.10	0.10	
Sulfate as SO ₄	mg/L	<1.0	1.0	

LABORATORY CONTROL SAMPLE: T039954-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Fluoride	mg/L	0.500	0.473	95	90-110	
Sulfate as SO ₄	mg/L	2.50	2.36	94	90-110	

Trace Project ID: T131161

Client Project ID: Humbolt Mill 60305471

QC Batch: T040019

QC Batch Method: EPA 335.4 Rev. 1.0

Analysis Description: Cyanide, Total

Analysis Method: EPA 335.4 Rev. 1.0

METHOD BLANK: T040019-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Cyanide (total)	mg/L	<0.0050	0.0050	

LABORATORY CONTROL SAMPLE: T040019-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Cyanide (total)	mg/L	0.100	0.0969	97	90-110	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T040019-MSD1

Original: T131161-01

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Cyanide (total)	mg/L	0.0121	0.100	0.136	0.301	124	289	81-114	80	20	213

Trace Project ID: T131161

Client Project ID: Humbolt Mill 60305471

QC Batch: T040059

QC Batch Method: EPA 350.1 Rev. 2.0

Analysis Description: Nitrogen, Ammonia

Analysis Method: EPA 350.1 Rev. 2.0

METHOD BLANK: T040059-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Ammonia as N	mg/L	<0.010	0.010	

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LABORATORY CONTROL SAMPLE: T040059-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Ammonia as N	mg/L	0.500	0.500	100	90-110	

Trace Project ID: T131161

Client Project ID: Humbolt Mill 60305471

QC Batch: T040027

Analysis Description: Total Dissolved Solids

QC Batch Method: SM 2540 C-97

Analysis Method: SM 2540 C-97

METHOD BLANK: T040027-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Total Dissolved Solids	mg/L	<10	10	

LABORATORY CONTROL SAMPLE: T040027-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Total Dissolved Solids	mg/L	500	471	94	80-120	

Trace Project ID: T131161

Client Project ID: Humbolt Mill 60305471

QC Batch: T040216

Analysis Description: Total Suspended Solids

QC Batch Method: SM 2540 D-97

Analysis Method: SM 2540 D-97

METHOD BLANK: T040216-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Total Suspended Solids	mg/L	<10	10	

LABORATORY CONTROL SAMPLE: T040216-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Total Suspended Solids	mg/L	100	91.0	91	85-115	

Trace Project ID: T131161

Client Project ID: Humbolt Mill 60305471

QC Batch: T040077

Analysis Description: Total Phosphorus

QC Batch Method: SM 4500-P E

Analysis Method: SM 4500-P E

METHOD BLANK: T040077-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Phosphorus-Total (as P)	mg/L	<0.010	0.010	

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2241 Black Creek Road
Muskegon, MI 49444-2673
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LABORATORY CONTROL SAMPLE: T040077-BS1

Parameter	Units	Spike Conc	LCS Result	LCS % Rec	% Rec Limit	Notes
Phosphorus-Total (as P)	mg/L	0.100	0.106	106	85-116	

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**CHAIN-OF-CUSTODY RECORD
AND WORK AUTHORIZATION**

TRACE ID NO.
7132161

Page 1 of 1

Please Sign				Sample Identification / Request for Analytical Services				Report Results To:			
Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Item #	RELEASED BY	RECEIVED BY	DATE	TIME	Client Name:	AEOM
1)	<i>[Signature]</i>	UAS	9/16/13	1:00	3)					Contact Person:	Leanne Lindberg
2)	<i>[Signature]</i>	UAS	9/16/13	8:32	4)					Mailing Address:	1050 Wilson St.
										City, State, Zip Code:	Muskegon, MI 49855
										Phone:	906.226.4680
										Fax:	906.226.8371
										Email Address:	leanne.lindberg@aeom.com
										Project Name:	4444444444
										PO #:	
										Trace #:	
										Sampled By:	A-TD
										Customer Sample ID	EM-HMP-009
										Trace NO.	
										DATE TAKEN	9/13/14
										TIME TAKEN	N
										ANALYSIS REQUESTED	
										REMARKS	
										Possible Health Hazard	

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SAMPLE LOG IN CHECKLIST

Trace ID #: <u>T132161</u>	Date: <u>9/11/10</u>	Package Description: <u>COOLER</u>
Client Name: <u>A-E Oom</u>	Time: <u>9:18 2</u>	Logged In by: <u>JW</u>

Cooler Receipt

Cooler/samples delivered by:		Trace courier <input type="checkbox"/>	Name of delivery person: _____
		Hand delivered <input type="checkbox"/>	
		Commercial courier <input checked="" type="checkbox"/>	UPS <input checked="" type="checkbox"/> FED EX <input type="checkbox"/> US Mail <input type="checkbox"/>
Tracking Number: <input type="checkbox"/> Not Applicable			
Tracking #: <u>12RA10340197512823</u>			
COC Seals present and intact on cooler? No <input type="checkbox"/> Yes <input type="checkbox"/>		<input checked="" type="checkbox"/> Not Applicable	
Custody seals signed by Client? No <input type="checkbox"/> Yes <input type="checkbox"/>		Client custody seal # (if applicable): _____	

Coolant and Temperature

Type of Coolant Used		Cooler Temperature	
Slurry w/ crushed, cubed, or chip ice? <input type="checkbox"/>		Correction Factor:	IR Thermometer <u>-0.3</u> °C
Multiple bags of ice around samples? <input checked="" type="checkbox"/>			Digital Stick Thermometer <u>-0.2</u> °C
Ice Packs/ Blue Ice: <input type="checkbox"/>		Temperature Blank: <u>6.0</u> °C (Use Digital Stick Thermometer)	
No Coolant Present: <input type="checkbox"/>		Range of 3 samples: _____ °C (Use IR Thermometer)	
		Melt Water: <u>-3.8</u> °C (IR or Stick Therm. - circle one)	
		Ice still present upon receipt: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

General

	Yes	No	NA	Comments
All bottles arrived unbroken with labels in good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Each sample point is in a sealed plastic bag?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Labels filled out completely?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
All bottle labels agree with Chain of Custody (COC)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sufficient sample to run tests requested?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
pH checked and samples at correct pH?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Below*
Correct preservative added to samples?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Air bubbles absent from VOAs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
COC filled out properly and signed by client?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
COC signed in by TRACE sample custodian?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was project manager called and samples discussed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Notes:

Form 70-A.10
Effective 8/28/13

*EMD pH Test Strips Used:

☒ pH 0-2.5 Lot: HIC390427
☒ pH 11.0-13.0 Lot: HIC919254
☐ Other: _____

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October 09, 2013

Mr. Lance Lindberg
AECOM
1050 Wilson
Marquette, MI 49855

Phone: (906) 228-2333
Fax: (906) 226-8371

RE: Trace Project T13J020
Client Project 60305471

Dear Mr. Lindberg:

Enclosed are your analytical results. The results of this report relate only to the samples listed in the body of this report.

All reports were examined through Trace's validation process to ensure that requirements for quality and completeness were satisfied. All reported analytical results were obtained in accordance with the methods referenced on the reports. Every practical effort was made to meet the reporting limit specifications for this work, however, some results may have raised reporting limits to correct for percent solids.

For clients that require NELAC Accreditation, Trace certifies that these test results meet all requirements of the NELAC Standard, except for those analytes with a "N" notation. These analytes have not been evaluated by NELAC at Trace's discretion and will not be reported unless requested by client.

If you have questions concerning this report, please contact me at 231.773.5998 or by email at jmink@trace-labs.com.

Sincerely,

Jon Mink
Senior Project Manager

Enclosures



NJDEP Accreditation No. MI008 PADEP Accreditation No. 68-04471

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SAMPLE SUMMARY

Trace Project ID: T13J020
Client Project ID: 60305471

Trace ID	Sample ID	Matrix	Collected By	Date Collected	Date Received
T13J020-01	EM-HMP-WetEE	Aqueous	Client	09/27/13 11:15	10/02/13 08:10

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AN EXPLANATION OF TERMS AND SYMBOLS WHICH MAY OCCUR IN THIS REPORT

DEFINITIONS

LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MS	Matrix Spike
MSD	Matrix Spike Duplicate
RPD	Relative Percent Difference
DUP	Matrix Duplicate
RDL	Reporting Detection Limit
MCL	Maximum Contamination Limit
TIC	Tentatively Identified Compound
<, ND or U	Indicates the compound was analyzed for but not detected
*	Indicates a result that exceeds its associated MCL or Surrogate control limits
N	Indicates that the compound has not been evaluated by NELAC
NA	Indicates that the compound is not available.

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ANALYTICAL RESULTS

Trace Project ID: T13J020

Client Project ID: 60305471

Trace ID: T13J020-01

Date Collected: 09/27/13 11:15

Matrix: Aqueous

Sample ID: EM-HMP-WetEE

Date Received: 10/02/13 08:10

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
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METALS, TOTAL

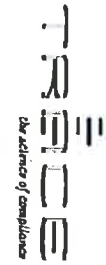
Analysis Method: SM 2340B

Batch: [CALC]

Hardness as CaCO ₃	240	mg/L	6.6	1	10/04/13		10/07/13	mes	N	
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CHAIN-OF-CUSTODY RECORD

Page 1 of 1
TRACE ID NO. T135020

Request for Analytical Services				Bill To:		Report Results To:			
Client Name:	ACCOM			Billing Address (if different):		Project Name & #:	10305471		
Contact Person:	Lance Lindberg			City, State, Zip Code:					
Mailing Address:	1050 Wilson St.			Phone:		PO #:			
City, State, Zip Code:	Muskegon, MI 49855								
Phone:	906 226-4980								
Fac:	906 226 8371								
Email Address:	lance.lindberg@accomm.com								
Cell #:									
Sample By:	Lindberg								
TRACE USE ONLY				ANALYSIS REQUESTED					
Logged By:	TV			Checked By: <u>QA</u>					
Received on site:	Yes No			Preservative Checked: Yes No N/A					
Soil Vials/Preservative:	Mach Low Level Lab Sampling Time:								
Regulatory Requirements: <input type="checkbox"/> AGRFA TMOs <input type="checkbox"/> Drinking Water <input type="checkbox"/> NPDES <input type="checkbox"/> USACE <input type="checkbox"/> Special				Interim Requirements: <input type="checkbox"/> Standard <input checked="" type="checkbox"/> 3-4 Day (RUSH) <input type="checkbox"/> 24-48 Hour (RUSH) <input type="checkbox"/> Requires prior approval					
Matrix Key				Matrix Key					
S = Soil				W = Water					
SE = Sediment				OI = Oil					
SO = Solid Waste				SL = Sludge					
WT = Waste				LW = Liquid Waste					
A = Air				D = Drinking Water					
				St = Sludge					
Hardness									
REMARKS				Possible Health Hazard					
Trace NO. DATE TAKEN TIME TAKEN METALS FIELD FLUORENCE 1 9/21/13 11:15 AM EM-HMP-WATER W 1 X									
RELEASED BY RECEIVED BY DATE TIME 10/2/13 8:10									
RELEASED BY RECEIVED BY DATE TIME 3)									
RELEASED BY RECEIVED BY DATE TIME 4)									

In executing this Chain of Custody, the client acknowledges acceptance of the terms and conditions of the agreement as set forth at <http://www.trace-labs.com/conditions.php>

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T13J020

SAMPLE LOG IN CHECKLIST

Trace ID #: <u>AECOM</u>	Date: <u>10/2/13</u>	Package Description: <u>COOLIA</u>
Client Name: <u>AECOM</u>	Time: <u>8:10</u>	Logged In by: <u>JL</u>

Cooler Receipt

Cooler/samples delivered by:	Trace courier <input type="checkbox"/>	Hand delivered <input type="checkbox"/>	Commercial courier <input checked="" type="checkbox"/>	Name of delivery person: _____
			URS <input checked="" type="checkbox"/> - FED EX <input checked="" type="checkbox"/> US Mail <input type="checkbox"/>	
Tracking Number:	<input type="checkbox"/> Not Applicable			
	Tracking #: <u>1Z A31 2E6 15 93 43 3297</u>			
COC Seals present and intact on cooler?	No <input type="checkbox"/>	<input checked="" type="checkbox"/> Not Applicable		
	Yes <input type="checkbox"/>			
Custody seals signed by Client?	No <input type="checkbox"/>	Client custody seal # (if applicable): _____		
	Yes <input type="checkbox"/>			

Coolant and Temperature

Type of Coolant Used		Cooler Temperature	
Slurry w/ crushed, cubed, or chip ice? <input type="checkbox"/>		Correction Factor:	IR Thermometer: <u>-0.2</u> °C <u>0.0</u>
Multiple bags of ice around samples? <input checked="" type="checkbox"/>			Digital Stick Thermometer: <u>-0.2</u> °C <u>0.0</u>
Ice Packs/ Blue Ice: <input type="checkbox"/>		Temperature Blank:	<u>N/A</u> °C (Use Digital Stick Thermometer)
No Coolant Present: <input type="checkbox"/>		Range of 3 samples:	<u>2.2</u> °C (Use IR Thermometer)
		Melt Water:	<u>0.7</u> °C (IR or Stick Therm. - circle one)
		Ice still present upon receipt:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

General

	Yes	No	NA	Comments
All bottles arrived unbroken with labels in good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Each sample point is in a sealed plastic bag?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Labels filled out completely?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
All bottle labels agree with Chain of Custody (COC)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sufficient sample to run tests requested?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
pH checked and samples at correct pH?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	See Below*
Correct preservative added to samples?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Air bubbles absent from VOAs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
COC filled out properly and signed by client?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
COC signed in by TRACE sample custodian?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was project manager called and samples discussed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Notes:

*EMD pH Test Strips Used:

☒ pH 0-2.5 Lot: HC390427 ☐ pH 11.0-13.0 Lot: HC819251
☐ Other: _____

Form 70-A.10
Effective 8/28/13

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